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INFORMATION DISCLOSURE CITATION			Docket Number (Optional)  MA9658P  Applicant(s)		Application Number   0   6/43			
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*EXAMENER INTTIAL	NE7	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
lose	·	6,200,606	03/13/2001	Peterso	n et al.			
		5,035,708	07/20/1991	Alchas	et al.			
		5,372,945	12/13/1994	Alchas	et al.			
		5,786,207	07/28/1998	Katz et	<b>2</b> l.			·
		4,820,626	04/11/1989	William	ıs et al.			
		4,883,755	11/28/1989	Caraba	si et al.			
		5,486,359	01/23/1996	Caplan et al.				
		4,458,678	07/10/1984	Yannas	et al.			
		5,837,235	11/17/1998	Mueller	et al.			·
		5,409,833	04/25/1995	Hu et al	l.			
1		6,316,247	11/13/2001	Katz et	al.		·	
				FOREIG	N PATENT DOCUMENTS			
	REF	DOCUMENT NUMBER	DATE		COUNTRY	CLASS	SUBCLASS	Trenstation YES NO
W		EP0570331	. 11/18/1993	Europe				
	,	WO8702812	07/11/1987	WIPO				
V		WO8601111	02/27/1986	WIPO				
			•		-,			
				OTHER	DOCUMENTS (Including	Author, Tide, L	Patz, Perlinent Pag	ges, Etc.)
•	,	U.S. Application No. 0	9/936,665, filed 9/	10/2001, K	atz et aL, Adipose-Derive	d Stem Cells a	nd Lattices	
10	1							
	7							
	-	U.S. Application No. 0	9/952.522. filed 9/	0/2001. K	atz et al., Adipose-Derive	d Stem Cells a	nd Lattices	
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STATE .	ADE		12/09/2002	3763				
*EXAMINE JAITINI		OTHER DOCUMENTS (Including Author	r, Title, Date, Pertinent Pages, Etc.)					
131	1	Avital, L., D. Inderbitzin, et al. (2001). "Isolatio stem cells." Biochem Biophys Res Commun 288	n, characterization, and transplantation; 156-64.	on of bone marrow-derived bepatocyte				
1		Carmeliet, P. and A. Luttun (2001). "The emer Thromb Haemost 86(1): 289-97.	ging role of the bonz marrow-derived	stem cells in (therapeutic) angiogenesis."				
		Castro-Malaspina, H., W. Ebell, et al. (1984). " Res 154: 209-36.	Human bone marrow fibroblast colon	y-forming units (CFU-F)." Prog Clin Bio				
-,		Coleman, S. R. (1995). "Long-term survival of t	fat transplants: controlled demonstrat	tions." Aesthetic Plast Surg 19(5): 421-5.				
		Coleman, S. R. (2001). "Structural fat grafts: th	ne ideal filter?" Clin Plast Surg 28(1):	111-9.				
		Coleman, W. P., 3rd (1991). "Autologous fat tra	ansplantation." Plast Reconstr Surg 8	8(4): 736.				
		Connolly, J. F. (1998). "Clinical use of marrow \$257-66.	osteoprogenitor cells to stimulate oste	ogenesis." Clin Orthop(355 Suppl):				
•		Eremia, S. and N. Newman (2000). "Long-term followed at least 12 months after receiving the la	follow-up after autologous fat graftin ast of a minimum of two treatments."	g: analysis of results from 116 patients Dermatol Surg 26(12): 1150-8.				
		Fukuda, K. (2001). "Development of regenerative engineering." Artif Organs 25(3): 187-93.	ve cardiomyocytes from mesenchymal	stem cells for cardiovascular tissue				
		Guerreresantos, J., A. Genzalez-Mendeza, et al. study in rats." Aesthetic Plast Surg 20(5): 403-8	. (1996). "Long-term survival of free f	at grafts in muscle: an experimental				
		Horwitz, E. M., D. J. Prockop, et al. (1999). "Treells in children with esteogenesis imperfecta."	Nat Med S(3): 309-13.					
	X	Horwitz, E. M., D. J. Prockop, et al. (2001). "Clesteogenesis imperfecta." Blood 97(5): 1227-31.	inical responses to bone marrow trans	iplantation in children with severe				
EXAMINER		CAMPARA	DATE CONSIDERED	445				
		citation considered, whether or not citation is in conforcepy of this form with next communication to applican		e through citation if not in conformance and				

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ER TRADE!	<b>y</b>	12/09/2002	3763
*EXAMINER		er, Title, Date, Pertinent Pages, Etc.)	
IN THAL	Huang, J. I., S. R. Beanes, et al. (2002). "Rat e Plast Reconstr Surg 109(3): 1033-41; discussion	extramedullary adipose tissue as a sou on 1042-3.	rce of osteochondrogenic progenitor cells."
	Hutley, L. J., A. C. Herington, et al. (2001). "I J Physiol Endocrinol Metab 281(5): E1037-44.	Human adipose tissue endothelial cells	promote preadipocyte proliferation." Am
	Kern, P. A., A. Knedler, et al. (1983). "Isolatio Invest 71(6): 1822-9.	on and culture of microvascular endoti	dellum from human adipose tissue." J Clin
	Lee, J. H., Z. Ilic, et al. (1996). "Cell kinetics o 77(2): 63-72.	f repair after ally! alcohol-induced liv	er necrosis in mice." Int J Exp Pathol
	Lee, P. E., R. C. Kung, et al. (2001). "Periureti a randomized double-blind controlled trial." J	hral autologous fat injection as treatm Urol 165(1): 153-8.	ent for female stress urinary incontinence:
	Mizuno, H., P. A. Zuk, et al. (2002). "Myogen! 109(1): 199-209; discussion 210-1.	c differentiation by human processed	lipoaspirate cells." Plast Reconstr Surg
	Murayama, T., O. M. Tepper, et al. (2002). "D angiogenic growth factor-induced neovasculari	etermination of bone marrow-derived ization in vivo." Exp Hematol 30(8): 9	endothelial progenitor cell significance in 67-72.
	Murry, C. E., R. W. Wiseman, et al. (1996). "S invest 98(11): 2512-23.	keletal myobiast transplantation for r	epair of myocardial necrosis." J Clin
	Muschler, G. F., H. Nitto, et al. (2001). "Age-a prevalence of osteoblastic progenitors." J Orth	and gender-related changes in the cellulop Res 19(1): 117-25.	ilarity of human bone marrow and the
	Nishimori, M., Y. Yamada, et al. (2002). "Heal 99(6): 1995-2001.	th-related quality of life of unrelated b	one marrow donors in Japan." Blood
	Orlic, D., J. Kajstura, et al. (2001). "Transplan Acad Sci 938: 221-9; discussion 229-30.	ited adult bone marrow cells repair m	yocardial infarcts in mice." Ann N Y
	Orlic, D., J. Kajstura, et al. (2001). "Bone mari	row cells regenerate infarcted myocar	dium." Nature 410(6829): 701-5.
EXAMINER	LANCEORO	DATE CONSIDERED	12/5
EXAMINER: Isla	al if citation considered, whether or not citation is in confo	ormance with MPEP Section 609: Draw lin	through citation if not in conformance and

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TOTAL	B	Docket Number (Optional) MA9658P	Application Number
	REATION DISCLOSURE CITATION  (Use several sheets (f necessary)	Applicatio) Fraser et al.	
Res Cal		. Filing Date	Group Art Unit
TA TRADE		12/09/2002	3763
*EXAMINER INITIAL	OTHER DOCUMENTS (Including Author,	Title, Date, Pertinent Pages, Etc.)	
60	Palma, P. C., C. L. Riccetto, et al. (1997). "Repe	ated lipoinjections for stress urinary	incontinence." J Endourol 11(1): 67-70.
	Pittenger, M. F., A. M. Mackay, et al. (1999). "N 284(5411): 143-7.	Aultilineage potential of adult human	mesenchymal stem cells." Science
	Prockop, D. J., S. A. Azizi, et al. (2000). "Potent central nervous system." Prog Brain Res 128: 29	ial use of marrow stromal cells as the 33-7.	rapeutie vectors for diseases of the
	Rajnoch, C., J. C. Chachques, et al. (2001). "Cel 121(5): 871-8. t&artType=abs&id=a112937&tar	lular therapy reverses myocardial dy rget=.	sfunction." J Thorac Cardiovasc Surg
	Shi, Q., S. Rafil, et al. (1998). "Evidence for circ	ulating bone marrow-derived endoth	elial cells." Blood 92(2): 362-7.
·	Strauer, B. E., M. Brehm, et al. (2002). "Repair marrow cell transplantation in humans." Circul	ation 106(15): 1913-8.	
	Takahashi, T., C. Kalka, et al. (1999). "Ischemia progenitor cells for neovascularization." Nat Me	ed 5(4): 434-8.	
	Thomas, E. D. (1994). "Stem Cell Transplantation		
	Werlich, T., K. J. Stiller, et al. (1999). "Experim Pathol 51(1): 93-8.		
	Yavorkovsky, L., E. Lai, et al. (1995). "Participa periportal necrosis induced by allyl alcohol." He		
	Yin, L., D. Lynch, et al. (1999). "Participation of injury induced by ally! alcohol." J Hepatol 31(3)		
	Zak, P. A., M. Zhu, et al. (2001). "Multilineage of Eng 7(2): 211-28.	rells from human adipose tissue: impl	ications for cell-based therapies." Tissue
EXAMINER	LANKSORO	DATE CONSIDERED	12/12/5
	ial if citation considered, whether or not citation is in confordude copy of this form with next communication to applican		e through citation if not in conformance and

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FORM 1449° C	Docket Number MA9658P	Application Number
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION	Applicant Fraser et al.	
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· · · · · · · · · · · · · · · · · · ·	<u>.</u>	U.S. PA	TENT DOCUMENTS	3			
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING IF APPRI	DATE
be	5,486,359	January 23, 1996 (EXHIBIT 1)	Caplan, et al.				
.	5,728,739	March 17, 1998 (EXHIBIT 2)	Ailhaud et al.				
	5,827,740	October 27, 1998 (EXMBIT 3)	Pittenger				
	5,827,897	October 27, 1998 (EXHIBIT 4)	Ailhaud, et al.		•		
		FOREIGN	PATENT DOCUME	VTS			
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANS	LATION
15V						YES	NO
1,	WO 98/04682	February 5, 1998 (EXHIBIT 5)	US			1	
4	OTHE	R DOCUMENTS (Includ	as Author Tille Date	Portinent Pag	oe Fir I		<u> </u>
						ediaa	· · ·
UBV	Americ	line, et al., "Paracrine st can Journal of Physiolog	y 1996 270(5) E895	-E899 (EXHIB	IT 6)		
	1279-1	et al., "Differentiation of 1285 (EXHIBIT 7)					
	precur	nann, et al., "Relationsh sor cells," American Phy	rs. Soc. 1996 270,C10	)11-C1016 (EX	HIBIT 8)		
	Eslam Stimul	Varzaneh, et al., "Extra ate Preadinocyte Differe	cellular Matrix Com entiation In Vitro," M	ponents Secrete <i>letabolism</i> 1994	d by Microvascu 43 (7), 906-912	(EXHIBIT	<u> </u>
1	Haune	r, et al. "Endothelin-l I	phibits the Adipose I	differentiation o	Cultured Huma	n Adipocyt	
	Precursor Cells," Metabolism 1994 43(2) pp 227-232 (EXHIBIT 10)  Hausman, et al., "The Influence of Extracellular Matrix Substrata on Preadipocyte Development in Serum-Free Cultures of Stromal-Vascular Cells," J. Anim.Sci. 1996 74(9), 2117-2128 (EXHIBIT 11)						
1	Hui-Ling et al., "Increased expression of G in mouse embryo stem cells promotes terminal differentiation to adipocytes," American Physiological Society 1993 265(6), C1729-C1735						
	(EXHIBIT 12)  Marko, et al., "Isolation of a Preadipocyte Cell Line from Rat Bone Marrow and Differentiation to Adipocytes," Endocrinology 1995 136(10), 4582-4588 (EXHIBIT 13)						
	Shilla 1996	beer, et al., "A novel me	thod for studying pre XHIBIT 14)	adipocyte differ	entiation <i>in vitro</i>		
	1996 20(Supp. 3), S77-S83 (EXHIBIT 14)  Sorisky et al., "From preadipocyte to Adipocyte: Differentiation-Directed Signals of Insulin from the Cell Surface to the Nucleus," Critical Review in Clinical Laboratory Sciences 1999 36(1), 1-34						
	(EXH	IBIT 15)		·			

DATE CONSIDERED XAMINER Avelees EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

\*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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FORM 1449	Docket Number MA9658P	Application Number
IN AN APPLICATION	Applicant Fraser et al.	
(Use several sheets if necessary)	Filing Date 12/09/2002	Group Art Unit 3763

	 OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
Ish	Vassaux, et al., "Proliferation and differentiation of Rat Adipose Precursor Cells in Chemically Defined Medium: Differential Action of Anti-Adipogenic Agents," Journal of Cellular Physiology 1994 161(2), 249-256 (EXHIBIT 16)
	Wabitsch, et al., "Biological Effects of Human Growth Hormone in Rat Adipocyte Precursor Cells and Newly Differentiated Adipocytes in primary Culture," Metabolism 1996 Vol 45, No. 1 pp34-42 (EXHIBIT 17)
	Young et al., "Mesenchymal Stem Cells Reside Within the Connective Tissues of Many Organs,"  Developmental Dynamics 1995 202(2), 137-144 (EXHIBIT 18)
<u> </u>	
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XAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw tipe through citation if not in contamance and not considered. Include copy of this form for next communication to the Applicant.

\*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Docket Number MA9658P	Application Number
Applicant Fraser et al.	•
Filing Date 12/09/2002 :	Group Art Unit 3763
	MA9658P  Applicant Fraser et al.  Filing Date

		U.S. PA	TENT DOCUMENTS				سيدن كالمساور
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS		G DATE COPRIATE
6	5,591,625 (Exhibit 19)	January 7, 1997	Gerson, et al.				
	5,786,207 (Exhibit 20)	July 28, 1998	Katz, et al.				
1	5,827,735 (Exhibit 21)	October 27, 1998	Young, et al.				
	5,827,740 (Exhibit 22)	October 27, 1998	Pittenger			•	
	5,906,934 (Exhibit 23)	May 25, 1999	Grande, et al.	·		•	
	5,908,784 (Exhibit 24)	June 1, 1999	Johnstone et al.				•
$\mathcal{D}$	6,200,606 B1 (Exhibit 25)	March 13, 2001	Peterson, et al.				
		FOREIGN	PATENT DOCUMEN	ITS			
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRAN	NO
_		R DOCUMENTS (Includ					
	99(Pt)	tt, JH, et al., 1991 J. Cel ):131-139 (Exhibit 26) ford, et al., 1986 Endo.	1 25- Dihydroxyvitar	nin D <sub>1</sub> and Hun	nan Bone-Derive	d Cells in	Vitro:
	Beresford, et al., 1986 Endo. "1,25- Dihydroxyvitamin D <sub>3</sub> and Human Bone-Derived Cells in Vitro: Effects on Alkaline Phosphatase, Type I Collagen and Proliferation," 119:1776-1785 (Exhibit 27)  Bjornson, et al., 1999 Science "Turning Brain into Blood: A Hernatopoetic Fate Adopted by Adult Neural Stem Cells in Vivo," 283:534-537 (Exhibit 28)					6/)	
	Bruder, et al., 1997 J. Cell Biochem. "Growth Kinetics, Self-Renewal, and the Osteogenic Potential Purified Human Mesenchymal Stem Cells During Extensive Subcultivation and Following Concreservation." 64:278-294 (Exhibit 29)						
	Butler human	Browne, et al., 1990 And skeletal muscle develo	pment and precocious		ition induced by	matora no	more,
-	Chene	S-L., et al., 1994 Endo Induction of the Osteob	"Differentiation of H	uman Bone Ma	rrow Osteogenic	Stromal C	ells in

DATE CONSIDERED EXAMINER CAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw fine through citation if not in informance and not considered. Include copy of this form for next communication to the Applicant.

\*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION

Docket Number
MA9658P

Application Number

10/316,127 392

Applicant
Fraser et al.

Fiting Date

12/09/2002 3763

(Use several sheets if necessary)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Chyun, et al., 1984 Endo. "Cortisol Decreases Bone Formation by Inhibiting Periosteal Cell Proliferation," 114:477-480 (Exhibit 32) Conget, PA and JJ Minguell 1999 J. Cell. Physiol "Phenotypical and Functional Properties of Human Bone Marrow Mesenchymal Progenitor Cells," 181:67-73 (Exhibit 33) Cooper, et al., 1999 J. Endocrinol. "Glucocorticoid activity, inactivity and the osteoblast." 163:159-164 (Exhibit 34) Deaker, A.E., et al., 1995 Differentiation "Formation of cartilage-like spheroids by micromass cultures of murine C3H101/2 cells upon treatment with transforming growth factor-\$1," 59: 25-34 (Exhibit 35) Deaker, et al., 1999 Differentiation "Chondrogenic differentiation of murine C3H10T1/2 multipotential mesenchymal cells: I. Stimulation by bone morphogenetic protein-2 in high-density micromass cultures," 64:67-76 (Exhibit 36) Dingi, et, al., 1995 Proc. Natl. Acad. Sci. USA "A biomarker that identifies a senescent human cells in culture and in aging skin in vivo," 92: 9363-9367 (Exhibit 37) Ducy, et, al., 1997 Cell "Osf2/Cbfs1: A Transcriptional Activator of Osteoblast Differentiation," 89:747-754 (Exhibit 38) Ferrari G., et al., 1998 Science "Muscle Regeneration by Bone Marrow-Derived Myogenic Progenitors," 279: 1528-1530 (Exhibit 39) Frederikson and McKay 1988 J. Neurosci. "Proliferation and Differentiation of Rat Neuroepithelial Precursor Cells in vivo," 8:1144-1151 (Exhibit 40) Fridman, et al., 1992 Int J. Cancer "Malignant Transformation of NIH-3T3 Cells After Subcutaneous co-Injection With A Reconstituted Basement Membrane (Matrigel)," 51(5), 740-44 (Exhibit 41) Grigoradis A., et al., 1988 J. Cell Biol. "Differentiation of Muscle, Fat, Cartilage, and Bone from Progenitor Cells Present in a Bone-derived Clonal Cell Population: Effect of Dexamethasone," 106: 2139-2151(Exhibit 42) Guerriero, V and JR Florini 1980 Endocrinology "Dexamethasone Effects on Myoblast Proliferation and differentiation," 106:1198-1202(Exhibit 43) Hall, BK 1981 "Intracellular and extracellular control of differentiation of cartilage and bone," Histochem. J. 13:599-614(Exhibit 44) Jaiswal, et al., 1997 "Osteogenic Differentiation of Purified, Culture-Expanded Human Mesenchymal Stem Cells In Vitro," J. Cell Biochem. 64:295-312(Exhibit 45) Inhustrace B., et al., 1998 "In Vitro Chandrogenesis of Bone Marrow-Derived Mesenchymal Progenitor Cells," Exp. Cell Res. 238: 265-272(Exhibit 46) Kania, et al., 1990 "The Drosophila segmentation gene runt encodes a novel nuclear regulatory protein that is also expressed in the developing nervous system," Genes Dev. 4:1701-1713(Exhibit 47) Kehlen, A. et al., 2000 J. Cell Biochem. "Increased Lymphocytic Aminopeptidase N/CD13 Promoter Activity After Cell-Cells Contact," 80:115-123(Exhibit 48) Kosher, RA, et al., 1986 J. Cell Biol. "Collagen Gene Expression During Limb Cartilage Differentiation," 102:1151-1156(Exhibit 49) Kuri-Harcuch, W. et al., 1984, Differentiation "Extracellular matrix production by mouse 3T3-F442A cells during adipose differentiation in culture," 28(Exhibit 50) Lanier, L.L. et al, 1991 J. Immunol. "Molecular and Functional Analysis of Human Natural Killer Cell-Associated Neural Cells Adhesion Molecule (N-Cam/CD56),"146:4421-4426(Exhibit 51) Lawson-Smith, M.J. and McGeachie, J.K. 1998 J. Anat. "The identification of myogenic cells in skeletal muscle, with emphasis on the use of tritiated thymidine autoradiography and desmin antibodies," 192:161-171 (Exhibit 52)

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

\*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet 9 of ZI -**Application Number Docket Number** MA9658P INFORMATION DISCLOSURE STATEMENT **Applicant** IN AN APPLICATION Fraser et al. Group Art Unit Filing Date (Use several sheets if necessary) 12/09/2002 3763

, /	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
120	Leboy, et al., 1991 J. Cell Physiol. "Dexamethasone Induction of Osteoblast mRNAs in Rat Marrow Stromal Cell Cultures," 146:370-378 (Exhibit 53)
	Lendahl, et al., 1990 Cell "CNS Stem Cells Express a New Class of Intermediate Filament Protein," 60:585-595 (Exhibit 54)
	Lenoir, N. 2000 Science "Europe Confronts The Embryonic Stem Cell Research Challenge," 287:1425-1427 (Exhibit 55)
	Lumelsky, N., et al. 2001 Science "Differentiation of Embryonic Stem Cells to Insulin-Secreting Structures Similar to Pancreatic Islets," 292:1389-1394. (Exhibit 56)
	Lynch, et al., 1995, Exp. Cell Res. "The Influence of Type I Collagen on the Development and Maintenance of the Osteoblast Phenotype in Primary and Passaged Rat Calvarial Osteoblasts: Modification of Expression of Genes Supporting Cell Growth, Adhesion, and Extracelluar Matrix Mineralization," 216:35-45 (Exhibit 57)
	Malaval, et al., 1994 J. Cell. Physiol. "Cellular Expression of Bone-Related Proteins During In Vitro Ostegenesis in Rat Bone Marrow Stromal Cell Culture," 158:555-572 (Exhibit 58)
	Manduca, et al., 1992 Eur. J. Cell Biol. "Chondrogenic differentiation in chick embryo osteoblast cultures," 57:193-201 (Exhibit 59)
	Martin, et al., 1999 Exp. Cell Res. "Mammalian Chondrocytes Expanded in the Presence of Fibroblast Growth Factor 2 Maintain the Ability to Differentiate and Regenerate Three-Dimensional Cartilaginous Tissue," 253:681-688 (Exhibit 60)
	Megeney, et al., 1996 Genes Dev. "MyoD is required for myogenic stem cell function in adult skeletal muscle," 10:1173-1183 (Exhibit 61)
	Molkentin and Olson 1996 Curr. Opin. Genet. Dev. "Defining the regulatory networks for muscle development," 6:445-453 (Exhibit 62)
	Mundlos, et al., 1997 Cell "Mutations Involving the Transcription Factor CBFA12 Cause Cleidocranial Dysplasia," 89:773-779 (Exhibit 63)
	Nehls, A. and D Drenckhahn 1991 J. Cell Biol. "Heterogeneity of Microvascular Pericytes for Smooth Muscle Type Alpha-Actin," 113:147-154 (Exhibit 64)
	Owen, TA, et al., 1990 J. Cell Physiol. "Progressive Development of the Rat Osteoblast Phenotype in Vitro: Reciprocal Relationships in Expression of Genes Associated with Osteoblast Proliferation and Differentiation During Formation of the Bone Extracellular Matrix," 143:420-430 (Exhibit 65)
· ·	Paul S.R., et al., 1991 Blood "Stromal Cell-Associated Hernatopoiesis: Immortalization and Characterization of Primate Bone Marrow-Derived Stromal Cell Line," 77: 1723-33 (Exhibit 66)
	Pittenger M.F., et al., 1999 Science "Multilineage Potential of Adult Human Mesenchymal Stem Cells," 284: 143-147 (Exhibit 67)
	Prockop D.J. 1997 Science "Marrow Stromal Cells as Stem Cells for Nonhematopoietic Tissues," 276: 71-74 (Exhibit 68)
	Rando, et al., 1995 Exp. Cell Res. "The Fate of Myoblasts Following Transportation into Mature Muscle," 220:383-389 (Exhibit 69)
	Saalbach, A., et al., 1997 Cell and Tiss. Res. "The Fibroblast-specific MAb ASO2: a novel tool for detection and elimination of human fibroblasts," 290:593-599 (Exhibit 70)
THE TOTAL PROPERTY OF THE PARTY	Sanchez-Ramos, et al., 2000 "Adult Bone Marrow Stromal Cells Differentiate into Neural Cells in Vitro," Exp. Neurol. 164:247-256 (Exhibit 71)
<b>                                     </b>	Seale and Rudnicki 2000 Dev. Biol. "A New Look at the Origin, Function, and "Stem-Cell" Status of Muscle Satellite Cells," 218:115-124 (Exhibit 72)

DATE CONSIDERED EXAMINER EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Ipetide copy of this form for next communication to the Applicant.

\*Substitute Disclosure Statement Sorm (PTO-1440) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT	Applicant			
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	. Filing Date	Group Art Unit		
(Use several sheets if necessary)	12/09/2002	3763		

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
b	Shukunami, C., et al., 1998 Exp. Cell Res. "Sequential Progression of the Differentiation Program by Bone Morphogenetic Protein-2 in Chondrogenic Cell Line ATDCS," 241:1-11 (Exhibit 73)
1	Shukunami C., et. al., 1996 Journ. Of Cell Bio. "Chrondrogenic Differentiation of Clonal Mouse Embryonic Cell Line ATDCS In Vitro: Differentiation-dependent Gene Expression of Parathyroid Hormone (PTH)/PTH-related Peptide Receptor," 133:2:457-468 (Exhibit 74)
	Silberstein, L., et al., 1986 Cell "Developmental Progression of Myosin Gene Expression in Cultured Muscle Cells," 46:1075-1081 (Exhibit 75)
	Suga, S., et al., 1996, "Eur. J. Cell Biol. "Intracellular localization of antigens recognized by anti- vimentin monoclonal antibodies (mAbs): Cross-reactivities of anti-vimentin mAbs with other cellular components 70:84-91 (Exhibit 76)
	Tacchetti, C, et al., 1992 Exp Cell Res. "Cell Condensation in Chondrogenic Differentiation," 200:26-33 (Exhibit 77)
	Tapscott, et al., 1988 Science "MyoD1: A Nuclear Phosphoprotein Requiring a Myc Homology Region to Convert Fibroblasts to Myoblasts," 242:405-411 (Exhibit 78)
	Thornell, et al., 1984 J. Neurol. Sci. "Development of Fiber Types in Human Fetal Muscle," 66:107-115 (Exhibit 79)
	Totonoz, et al., 1995 Mucl: Acid Res "mPPARy2: tissue-specific regulator of an adipocyte enhancer," (Exhibit 80)
	Tsonis and Goetinck 1990 Exp. Cell Res. "Cell Density Dependent Effect of a Tumor Promoter on Proliferation and Chondrogenesis of Limb Bud Mesenchymal Cells," 190:247-253 (Exhibit 81)
	von der Mark, et al., 1977 Nature "Relationship between cell shape and type of collagen synthesised as chondrocytes lose their cartilage phenotype in culture," 267:531-532 (Exhibit 82)
	Vulcicevic et al., 1992 Exp. Cell Res "Identification of Multiple Active Growth factors in Basement Membrane Matrigel Suggests Caution in Interpretation of Cellular Activity Related to Extracellular Matrix Components,".  202(1), 1-8 (Exhibit 83)
	Weintraub, et al., 1991 Science "The myoD Gene Family: Nodal Point During Specification of the Muscle Cell Lineage," 251:761-766 (Exhibit 84)
	Woodbury, et al., 2000 J. Neurosci. Res. Science "Adult Rat and Human Bone Marrow Stromal cells Differentiate Into Neurons," 61:364-370 (Exhibit 85)
	Young, 2000 Science "A Time for Restraint," 287:1424. (Exhibit 86)
	Zalin, RJ 1987 Exp. Cell Res. "The Role of Hormones and Prostanoids in the in Vitro Proliferation and differentiation of Human Myoblasts," 172:265-281. (Exhibit 87)
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EXAMINER: Initial if reference considered, whether or not/citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

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		U.S. P	ATENT DOCUMENTS					
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE		
		FOREIGI	N PATENT DOCUMEN	12		·		
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION		
						YES NO		
1/	OTHE	R DOCUMENTS (Inclu	ding Author, Title, Date	Pertinent Page	es, Etc.)			
5	Ankro	m, Michael A., "Age-re lasts," Biochem J. 333:	lated changes in huma	n oestrogen rec	eptor function a	nd levels in		
V	Aro H	lisashi, et al., "A Pread	inocyte Clonal Line fro	m bovine Intra	muscular Adipos	se Tissue:		
	Nonex	pression of GLUT-4 pr	otein during Adipocyte	Differentiation	." Biochem. Bio	phys. Res. Commun.		
	213:36	9-375. (Exhibit 89)			·			
	Bernio	hr, David A. et al., "Ti Adipocytes," <i>Biochem</i>	ssue Specific Expression	on of p422 prote	in , A putative I	Lipid Carrier, In		
	Mouse	tz, S. et al., "Endoglin	is a Component of the	Transforming C	rowth Factor-8	Receptor System in		
·	Huma	n Endothelial Cells," J.	Biol. Chem., 1992 267	:19027-19030.	(Exhibit 91)			
	Chen, Theresa L. et al., "10,25-Dihydroxyvitamin D, Receptors in Cultured Rat osteoblast-like Cells,"							
	J. Biol. Chem. 1983 258:4350-4355. (Exhibit 92)  Enomoto, Hirayuki et al., "Cbfal Is a Positive Regulatory Factor in Chondrocyte Maturation,"							
	1 Riol	Chem. 2000 275:8695	i-8702. (Exhibit 93)					
	Herman, Ira M. and Patricia D'Amore, "Microvascular Pericytes Contain Muscle and Nonmuscle							
	Actins," J. Cell Biol. 1985 101:43-52. (Exhibit 94)  Lucas, Paul A. et al., "Mesenchymal Stem Cells From Granulation Tissue," J. Cell Biochem, 1993							
	1 17E:1	22. R212 (Exhibit 95)		•				
	Maies	ka, Robert J. and Gideo	n A. Rodan, "The Effe	ct of 1,25(OH),	D <sub>3</sub> on Alkaline I	Phosphates in		
	Osteo	blastic Osteosarcoma C	ells," J. Biol. Chem. 19	82 257:3362-3	365. (Ezhibil 96			
	Perias	amy, Muthu et al., "Reprophy," Biochem. J. 19	gulation of myosin heav 89 257:691-698, (Exhi	vy-ensin gene e bit 97)	xbic231011 om mi	3 SECTAPHRISCIE		
	Poliar	d. a. et al. "Controlled	Conversion of an Imm	ortalized Mesoc	lermal progenito	r Cell Towards		
	osteo	enic, Chondrogenic, or	Adipogenic Pathways	" J. Cell Biol.	<u>995 130,1461-1</u>	472. (Exhibit 98)		
	Price, Paul A. et al., "Matrix GLA Protein, A New y-Carboxyglutamic Acid-Containing Protein Which							
		ociated With The Organ	pic Matrix of Bone," E	liochem. Biophy	rs. Res. Commun	., 1983 117:765-771.		
	(Ezhi	bit 99)	A4 701 W2 34	- Marchland	Nuise Che	en eteriantian and		
	Rando	), Thomas A. and Helen	inted Gene Therany "	Cell Rial 1994	rumicznoń, Cha i 125:1275-1287	(Exhibit 100)		
Transplantation for Cell-mediated Gene Therapy," J. Cell Biol 1994 125:1275-1287. (Exhibit 100)  Wejner, Francis R. et al., "Regualtion of collagen Gene Expression in 3T3-L1 Cells. Efects of Adipoc								
	Bifferentiation and Tumor pecrosis Factor or Biochem 1989 28:4094-4099. (Exhibit 101)							
		0 11			19/			
EXAMINER	7 1		DATE CONS		191	45		
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Sheet 12of 21 **Application Number Docket Number** MA9658P 10/316/137 INFORMATION DISCLOSURE STATEMENT **Applicant** Fraser et al. IN AN APPLICATION Group Art Unit Filing Date (Use several sheets if necessary) 3763 12/09/2002 :

BU	Williams, Irene H. and S. Esthimios Polakis, "Differentiation of 3T3-L1 Fibroblasts to Adipocytes The Effect Of Indomethacin, Prostaglandin E, And Cyclic AMP On The Process of Differentiation," Biochem. Biophys. Res. Commun. 1977 77:175-186. (Exhibit 102)
·	Wise, Leigh S. and Howard Green, "Participation of One Isozyme of Cytosolic Glycerophosphate Dehydrogenase in the Adipose Conversion of 3T3 Cells," J. Biol. Chem. 1979 254:273-275. (Exhibit 103)
	Yoon, Kyonggeun et al., "Characterization of the Rat osteocalcin Gene: Stimulation of Promoter Activity by 1,25-Dihydroxyvitamin D <sub>3</sub> ," Biochem. 1988 27:8521-8526. (Exhibit 104)
V	
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(AMINER: Initial if reference considered, whether or not cliation is in conformance with MPEP 609; draw line through citation if not in unformance and not considered. Include copy of this form for next communication to the Applicant.

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INITIAL	5,226,914 (Exhibit 105)	07/13/93	Caplan et al.			11/16/90
15L			2 4 - 4 - 4	<del> </del>		01/24/95
	5,736,398 (Exhibit 106)	04/07/98	Bruder et al.			
	5,811,094 (Exhibit 107)	09/22/98	Caplan et al.			04/11/95
		400000	Klein			05/29/97
	5,817,050 (Exhibit 108)	10/06/98		ļ		44116108
	5,908,784 (Exhibit 109)	06/01/99	Johnstone et al.	·		11/15/96

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	WO98/20731 (Exhibit 114)	05/22/98	PCT				
	WO98/32333 (Exhibit 115)	07/30/98	PCT				X
	WO98/51317 (Exhibit 116)	11/19/98	PCT			_	X
	WO99/01145 (Exhibit 117)	01/14/99	PCT		•		X
+	WO99/03973 (Exhibit 118)	01/28/99	PCT				X
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D	WO99/11789 (Exhibit 119)	U3/11/33	''	l			<u> </u>

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
bol	Bastard, J. P. et al., "A Mini-Liposuction Technique Adapted to the Study of Human Adipocyte Glucose Transport System," Diabetologia, 36(Suppl. 1):A135, 1993 (Exhibit 120)  Capian, Amold I., "The Mesengenic Process," Clinics in Plastic Surgery, 21:429-35, 1994 (Exhibit 121)					
	Crandall, David L. et al., "Identification of Estrogen Receptor B RNA in Human Breast and Abdominal Subcutaneous Adipose Tissue," Biochemical and Biophysical Research Communications, 248:523-6, 1998 (Exhibit 122)					
EXAMINER (	DATE CONSIDERED 7/17					
conformance and not a	ference considered whether or not citation is in conformance with MPER 609; draw line through citation if not in considered. Include copy of this form for next communication to the Applicant.  Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE					

Sheet 4 of 1 **Application Number Docket Number** <del>10/316,1</del>27 MA9658P INFORMATION DISCLOSURE STATEMENT **Applicant** Fraser et al. IN AN APPLICATION . Group Art Unit Filing Date

(Use several sheets if necessary)

	•		OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
( )	1		Hauser Hans et at "Promoting Effect of Glucoconticoids on the Differentiation of Human Adipocyte
(/)	1		Precursor Cells Cultured in a Chemically Defined Medium," Journal of Clinical Investigation, 84:1663-70, 1989 (Exhibit 123)
	11		Hauner H. et al., "Glucocorticoids and Insulin Promote the Differentiation of Human Adipocyte Precursor Cells into Eat Cells "Journal of Clinical Endocrinology and Metabolism, 64:832-5, 1987 (Exhibit 124)
	1		Johnson, P. R. et al., "Uncontrolled adipocyte proliferation is not the primary lasion in the genetically-
	1		Killinger, D. W. et al., Influence of Adipose Tissue Distribution on the Biological Activity of Androgens,"  Annals New York Academy of Sciences, 595:199-211, 1990 (Exhibit 126)
			Killinger, Donald W. et al., "The Relationship Between Aromatase Activity and Body Fat Distribution,"  Stemids, 50:61-72, 1987 (Exhibit 127)
			Lafontan, M. et al., "Réflexions sur une nouvelle approche de chirurgie plastique réparatrice: la réimplantation de fragments de tissu adipeux prélevés par liposuccion," Ann. Chur. Plast. Esthet., 34:77-
			Lam, Anson and Ronald Moy, "The Potential for Fat Transplantation," J. Dermatol. Surg. Oncol., 18:432-
			Lecoeur, L. and J. P. Ouhayoun, "In vitro induction of osteogenic differentiation from non-osteogenic mesonstrumated and Scientials 18:989-93, 1997 (Exhibit 130)
20			Loncar, D., "Ultrastructural analysis of differentiation of rat endoderm in vitro. Adipose vascular-stromatically induce endoderm differentiation, which in turn induces differentiation of the vascular-stromatically into chandrages." J. Submicrosc. Cytol. Pathol., 24:509-19, 1992 (Exhibit 131)
			Novakofski, Jan E., "Primary Cett Culture of Adipose Tissue," Biology of the Adipocyte: Research Approaches, Van Nostrand Reinhold Company, NY, 1987 160-97 (Exhibit 132)
			Pedersen, S. B. et al., "Identification of oestrogen receptors and oestrogen receptor mRNA in human adjacent lesses." Furneean Journal of Clinical Investigation, 26:262-9, 1996 (Exhibit 133)
			Pettersson, Per et al., "Adipocyte Precursor Cells in Obese and Nonobese Humans," Metabolism, 34:808-
			Ramsay, T. G. et al., "Pre-Adipocyte Proliferation and Differentiation in Response to Hormone Supplementation of Decapitated Fetal Pio Sera," J. Anim. Sci., 84:735-44, 1987 (Exhibit 135)
		<del></del>	Rubens, F. D. et al., "Tissue Factor Expression by Cells Used for Sodding of Prosthetic Vascular Grans.  Instrument of Surplical Research: 72:22-8, 1997 (Exhibit 138)
			Smahel, J., 'Aspiration lipectomy and adipose tissue injection: pathophysiologic commentary,' European towned of Plastic Summer, 14:126-31, 1991 (Exhibit 137)
			Springhorn, Jeremy P. et al., "Human Capillary Endothelial Cells from Abdominal Wall Adipose Tissue: Isolation Using an Anti-Pecam Antibody," In Vitro Cellular & Developmental Biology-Animal, 31:473-81, 1995 (Exhibit 138)
1		•	Tavassoli, Mehdi, "In Vivo Development of Adipose Tissue Following Implantation of Lipid-Depleted Cultured Adiposes "Experimental Cell Research, 137:55-62, 1982 (Exhibit 139)
1	1		Williams, John T. et al., "Cells Isolated from Adult Human Skeletal Muscle Capable of Differentiating into Multiple Mesogermal Phenotypes." The American Surgeon, 65:22-6, 1999 (Exhibit 140)
L			

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy/of this form for next communication to the Applicant.

Substitute Disclosure Statement Form (PTO-1/149)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

3763

12/09/2002 :

•	
	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
110	Williams, Stuart K. et al., "Liposuction-derived human fat used for vascular graft sodding contains endothelial cells and not mesothelial cells as the major cell type," Journal of Vescular Surgery, 19:916-23, 1994 (Exhibit 141)
	Włodarski, Krzysztof H., "Section III. Basic Science and Pathology. Properties and Origin of Osteoblasts,"  Cfinical Orthogaedics and Related Research, 252:276-93, 1990 (Exhibit 142)
	Ahrens, Patricia Buckley et al., "Stage-Related Capacity for Limb Chondrogenesis in Cell Culture,"  Developmental Biology, 1977, 60:69-82 (Exhibit 143)
	Alameddine, Hala S. et al., "Regeneration of Skeletal Muscle Fibers from Autologous Satellite Cells  Multiplied In Vitro. An Experimental Model for Testing Cultured Cell Myogenicity," Muscle & Nerve, 1989.  12:544-55 (E-biblt 144)
	Angele, P. et al., "Engineering of Osteochondral Tissue with Bone Marrow Mesenchymal Progenitor Cells in a Derivatized Hyaturonan-Getatin Composite Sponge," Tissue Engineering, 1999, 5:545-53
	Bailey, A. J. et al., "Age-Related Changes in the Biochemical Properties of Human Cancellous Bone Colleges: Relationship to Bone Strength," Calcilied Tissue International, 1999, 65:203-10 (Exhibit 146)
	Barghorn, A. et al., "to-Smooth Muscle Actin Distribution in the Pulmonary Vasculature Companing Hypoplastic and Normal Fetal Lungs," Pediatric Pathology & Laboratory Medicine, 1998, 18:5-22
	Baylink, David J., "Glucocorticold-Induced Osteoporosis," The New England Journal of Medicine, 1983,
	Becerra, José et al., "Demineralized Bone Matrix Mediates Differentiation of Bone Marrow Stromal Cells In Vitro: Effect of Age of Cell Donor," Journal of Bone and Mineral Research, 1996, 11:1703-14
	Beiser, Ian H. and Irvin O. Kanat, "Subchondral Bone Drilling: A Treatment for Cartilage Defects," Journal of Foot Surgery, 1990, 29-595-601 (Exhibit 150)
	Breen, Ellen C. et al., "TGFB Alters Growth and Differentiation Related Gene Expression in Proliferating Osteoblasts in Vitro, Preventing Development of the Mature Bone Phenotype," Journal of Cellular Charistens, 1994, 160-323-35 (Exhibit 151)
	Bruder, Scott P. et al., "Bone Regeneration by Implantation of Purified, Culture-Expanded Human
	Butnariu-Ephrat, Miriam et al., "Resurfacing of Goal Articular Cartilage by Chondrocytes Derived From Bone Marrow," Clinical Orthopaedics and Related Research, 1996, 330:234-43 (Exhibit 153)
	Campion, Dennis R., The Muscle Satellite Celt: A Review, Internationals Review of Cytology, 1904,
	87:225-51 (Exhibit 154) Caplan, Arnold L, "Mesenchymal Stem Cells," Journal of Orthopaedic Research, 1991, 9:641-50
<del>                                      </del>	(Exhibit 155) Caplan, Arnold I., "The Mesengenic Process," Clinics in Plastic Surgery, 1994, 21:429-35 (Exhibit 156)
NE /	Carranza-Bencano, A. et al., "Comparative Study of the Reconstruction of Articular Cartilage Defects with Free Costal Perichondrial Grafts and Free Tiblal Periosteal Grafts: An Experimental Study on Rabbits," Opticified Tissue International, 1999, 65:402-7 (Exhibit 157)
EXAMINER	DATE CONSIDERED 1/12/5
EXAMINER: Initial I ref	erence considered whether or not citation is in conformance with MPEP 609; draw line/through citation if not in
*Substitute Disclosure	onsidered. Include copy of this form for next communication to the Applicant.  Statement Form (PPO 1449)  Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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	ATUTA BACHILENTA Had dea Adhea Tille Cale De Cale De Cale
	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
BU	Chen, Xiaofi et al., *Differentiation-dependent expression of obese (ob) gene by preadipocytes and adipocytes in primary cultures of porcine stromal-vascular cells,* Biochimica et Biophysica Acta, 1997, 1359:136-42 (Exhibit 158)
	Chimal-Monroy, Jesús and Lino Diaz de León, "Expression of N-cadherin, N-CAM, fibronectin tenascin is stimulated by TGF-β1, β2, β3 and β5 during the formation of precartilage condensations," The International Journal of Developmental Biology, 1999, 43:59-67 (Exhibit 159)
	Deng, Weiwen et al., "In Vitro Differentiation of Human Marrow Stromal Cells into Early Progenitors of Neural Cells by Conditions That Increase Intracellular Cyclic AMP," Biochemical and Biophysical Research Communications, 2001, 282:148-52 (Exhibit 160)
	Dennis, James E. et al., "A Quadripotential Mesenchymal Progenitor Cell Isolated from the Marrow of an Adult Mouse," Journal of Bone and Mineral Research, 1999, 14:700-9 (Exhibit 161)
	Dias, Peter et al., "The Molecular Basis of Skeletal Muscle Differentiation," Seminars in Diagnostic Pathology, 1994, 11:3-14 (Exhibit 162)
	Diefenderfer, David L. and Carl T. Brighton, "Microvascular Pericytes Express Aggrecan Message Which is Regulated by BMP-2," Biochemical and Biophysical Research Communications, 2000, 269:172-8 (Exhibit 163)
	Eisenberg, Shlomo, "High density lipoprotein metabolism," Journal of Lipid Research, 1984, 25:1017-58 (Exhibit 164)
	Fajas, Lluis, et al., "Transcriptional control of adipogenesis," Current Opinion in Cell Biology, 1998, 10:165-73 (Exhibit 165)
	Farndale, Richard W. et al., "Improved quantitation and discrimination of sulphated glycosaminoglycans by use of dimethylene blue," Biochimica et Biophysica Acta, 1986, 883:173-7 (Exhibit 166)
	Folop, Caaba et al., "Expression of Alternatively Spliced Epidermal Growth Factor-like Domains in Aggrecans of Different Species," The Journal of Biological Chemistry, 1993, 268:17377-83 (Exhibit 167)
	Glowacki, J., "Influence of Age on Human Marrow," Calcified Tissue International, 1995, 56(Supp. 1):S50-1 (Exhibit 168)
	Grigoriadis, Agamemnon E. et al., "Analysis of chondroprogenitor frequency and cartilage differentiation in a novel family of clonal chondrogenic rat cell lines," Differentiation, 1996, 60:299-307 (Exhibit 169)
	Hardingham, Tim et al., "Studies on the Synthesis, Secretion and Assembly of Proteoglycan Aggregates by Chondrocytes," Matrices and Cell Differentiation, 1984, 151:17-29 (Exhibit 170)
	Haynesworth, S. E. et al., "Cell Surface Antigen on Human Marrow-Derived Mesenchymal Cells are Detected by Monoclonal Antibodies," Bone, 1992, 13:59-80 (Exhibit 171)
	Huss, Ralf, "Isolation of Primary and Immortalized CD34" Hematopoietic and Mesenchymal Stem Cells from Various Sources," Stem Cells, 2000, 18:1-9 (Exhibit 172)
	Wasaki, Motoki et al., "Regulation of Proliferation and Osteochondrogenic Differentiation of Periosteum- Derived Cells by Transforming Growth Factor-B and Basic Fibroblast Growth Factor," Journal of Bone and Joint Surgery, 1995, 77A:543-54 (Exhibit 173)
	Katz, Adam J. et al., "Emerging Approaches to the Tissue Engineering of Fat," Clinics in Plastic Surgery, 1999, 26:587-603 (Exhibit 174)

EXAMINER: Initial it reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant:

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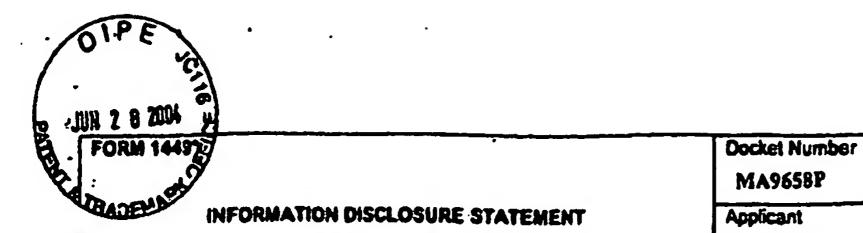
·					
	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)				
1/3	Kirsch, Thorsten and Klaus von der Mark, "Remodelling of collagen types I, II and X and calcification of human fetal cartilage," Bone and Mineral, 1992, 18:107-17 (Exhibit 175)				
	Kosher, Robert A. and Michael Solursh, "Widespread Distribution of Type II Collagen during Embryonic Chick Development," Developmental Biology, 1989, 131:558-66 (Exhibit 176)				
	Lazarus, Hillard M. et al., "Human Bone Marrow-Derived Mesenchymal (Stromal) Progenitor Cells (MPCs) Cannot Be Recovered from Peripheral Blood Progenitor Cell Collections," Journal of Hematotherapy, 1997. 6:447-55 (Exhibit 177)				
	Leboy, Phoebe S. et al., "Ascorbic Acid Induces Alkaline Phosphatase, Type X Collagen, and Calcium .  Deposition in Cultured Chick Chondrocytes," The Journal of Biological Chemistry, 1989, 264:17281-6  (Exhibit 178)				
	Lee, Yun-Shain and Cheng-Ming Chuong, "Adhesion Molecules in Skeletogenesis: I. Transient Expression of Neural Cell Adhesion Molecules (NCAM) in Osteoblasts During Endochondral and Intramembranous Ossification," Journal of Bone and Mineral Research, 1992, 7:1435-46 (Exhibit 179)				
	Lennon, Donald P. et al., 'Human and Animal Mesenchymal Progenitor Cells from Bone Marrow: Identification of Serum for Optimal Selection and Proliferation," In Vitro Cell. Dev. Biol Animal, 1996, 32:602-11 (Exhibit 180)				
	Lev, Robert and S. S. Spicer, "Specific Staining of Sulphate Groups with Alcian Blue at Low pH," J. Histochem. Cytochem., 1964, 12:309-10 (Exhibit 181)				
	Long, Michael W. et al., "Age-Related Phenolypic Alterations in Populations of Purified Human Bone Precursor Cells." The Journals of Gerontology, 1999, 54A:854-62 (Exhibit 182)				
	Lucas, P. A. et al., "Isolation of Putative Mesenchymal Stem Cells from Rat Embryonic and Adult Skeletal Muscle," In Vitro Cell Dev. Biol., 1992, 28:154A (Exhibit 183)				
	MacDougald, Ormond A. and M. Daniel Lane, "Transcriptional Regulation of Gene Expression During Adipocyte Differentiation," Annu. Rev. Biochem., 1995, 64:345-73 (Exhibit 184)				
	Mullen, Richard J. et al., "NeuN, a neuronal specific nuclear protein in vertebrates," Development, 1992, 116:201-11 (Exhibit 165)				
	Nagle, R. B. et al., "Factor VII-Associated Antigen in Human Lymphatic Endothelium," Lymphology, 1987, 20:20-4 (Exhibit 188)				
	Nakahara, H. et al., "Bone and Cartilage Formation in Diffusion Chambers by Subcultured Cells Derived from the Periosteum," Bone, 1990, 11:181-8 (Exhibit 187)				
	Nakano, Hirotaka et al., "RT-PCR Suggests Human Skeletal Muscle Origin of Alveolar Soft-Part Sarcoma." Oncology, 2000, 58:319-23 (Exhibit 188)				
	O'Driscoll, Shawn W., "Current Concepts Review: The Healing and Regeneration of Articular Cartilage,"  Journal of Bone and Joint Surgery, 1998, 80A:1795-812 (Exhibit 189)				
	Olson, E. N. et al., "Know Your Neighbors: Three Phenotypes in Null Mutants of the Myogenic bHLH Gene MRF4," Cell, 1996, 85:1-4 (Exhibit 190)				
Pairault, Jacques and Howard Green, "A study of the adipose conversion of suspended 3T3 cell using glycerophosphate dehydrogenase as differentiation marker," Proc. Natl. Acad. Sci. USA, 1 76:5138-42 (Exhibit 191)					
	Park, S. R. et al., "Interconversion Potential of Clone Human Marrow Adipocytes In Vitro," Bone, 1999, 24:549-54/(Exhibit 192)				
7					
EXAMINER	DATE CONSIDERED 17/10				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Unclude copy of this form for next communication to the Applicant.

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MA9658P **Applicant** Fraser et al. IN AN APPLICATION Group Art Unit Filing Date

(Use several sheets if necessary) 3763 12/09/2002

	•
/	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
135	. Pettersson, Per et al., "Cells in Human Adipose Tissue Developing into Adipocytes," Acta Med Scand, 1984, 215:447-51 (Exhibit 193)
- 7	Pierelli, Luca et al., "CD34+/CD105+ cells are enriched in primitive circulating progenitors residing in the
1 1	G0 phase of the cell cycle and contain all bone marrow and cord blood C034+/CD38 <sup>low*</sup> precursors,*
	British Journal of Haematology, 2000, 108:610-20 (Exhibit 194)
	Price, Paul A., "GLA-Containing Proteins of Bone," Connective Tissue Research, 1989, 21:51-60
	(Exhibit 195)
<del></del>	Price, Paul A. and Sharon A. Baukol, "1,25-Dihydroxyvitamin D3 Increases Synthesis of the Vitamin K-
	dependent Bone Protein by Osteosarcoma Cells," The Journal of Biological Chemistry, 1980, 255:11660-
	3 (Exhibit 196)
	Probst, M. et al., "Hornologous bladder augmentation in dog with the bladder acellular matrix graft," BJU
	International, 2000, 85:362-71 (Exhibit 197)
	Richardson, J. B. et al., "Repair of human articular cartilage after implantation of autologous
1 -1 1	chondrocytes,* The Journal of Bone and Joint Surgery, 1999, 81:1064-8 (Exhibit 198)
	Rickard, David J. et al., "Isolation and Characterization of Osteoblast Precursor Cells from Human Bone
1 1 1	Marrow," Journal of Bone and Mineral Research, 1996, 11:312-24 (Exhibit 199)
	Sarnat, Harvey B. et al., "Neuronal nuclear antigen (NeuN): a marker of neuronal maturation in the early
	human fetal nervous system," Brain & Development, 1998, 20:88-94 (Exhibit 200)
	Scott, Douglas M. et al., "Collagen Synthesis in Cultured Osteoblast-like Cells," Archives of Biochemistry
	and Biophysics, 1980, 201:384-91 (Exhibit 201)
' <del>-    </del>	Shathoub, Victoria et al., 'Downregulation of Cell Growth and Cell Cycle Regulated Genes during Chick
1 1	Osteoblast Differentiation with the Reciprocal Expression of Histone Gene Variants," Biochemistry, 1989,
	28:5318-22 (Exhibit 202)
<del> </del>	Siffert, Robert S., "The Role of Alkaline Phosphatase in Osteogenesis," The Journal of Experimental
1 1	Medicine, 1951, 93:415-26 (Exhibit 203)
·	Syrtala, M. et al., "A flow cytometric assay of CD34-postitive cell populations in the bone marrow," British
1 1	Journal of Haematology, 1994, 88:679-84 (Exhibit 204)
	Tacchetti, C. et al., "In Vitro Morphogenesis of Chick Embryo Hypertrophic Cartilage," The Journal of Cell
	Biology, 1987, 105:999-1006 (Exhibit 205)
	Tontonoz, Peter et al., "mPPARy2: tissue-specific regulator of an adipocyte enhancer," Genes &
	Development, 1994, 8:1224-34 (Exhibit 206)
	Traveum, P. and Margaret Ashwell, "Control of white and brown edipose tissues by the autonomic
·	nervous system." The Proceedings of the Nutrition Society, 1987, 48:135-42 (Exhibit 207)
	Vandenburgh, Herman H. and Patricia Karlisch, "Longitudinal Growth of Skeletal Myotubes in Vitro in a
	New Horizontal Mechanical Cell Stimulator," In Vitro Cellular & Developmental Biology, 1989, 25:607-16
	(Exhibit 208)
	Wakitani, Shigeyuki et al., 'Mesenchymal Cell-Based Repair of Large, Full-Thickness Defects of Articular
	Cartilage," The Journal of Bone and Joint Surgery, 1994, 78A:579-92 (Exhibit 209)
	Wakitani, Shigeyuki et al., "Myogenic Celis Derived from Rat Bone Marrow Mesenchymal Stem Cells
4-4-	Exposed to 5-Azacytidine," Muscle & Nerve, 1995, 18:1417-26 (Exhibit 210)
	Weintraub, Harold et al. "Tissue-specific gene activation by MyoD: determination of specificity by cis-
11/	acting repression elements, Genes & Development, 1994, 8:2203-11 (Exhibit 211)
EXAMINER	DATE CONSIDERED 17/17/
	118/11/11/11/11/11/11/11/11/11/11/11/11/
FYAMNER bild if me	dence considered whether or not citation is in conformance with MPEP 609; draw line through citation if not in
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FORM 1449 BY	Docket Number MA9658P	Application Number 392
IN AN APPLICATION	Applicant Fraser et al.	
(Use several sheets if necessary)	Filing Date 12/09/2002 :	Group Art Unit 3763

1		OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
B.		Yoo, Jung U. and Brian Johnstone, "The Role of Osteochondral Progenitor Cells in Fracture Repair," Clinical Orthopsedics and Related Research, 1998, 355S:S73-81 (Exhibit 212)
		Young, Henry E. et al., "Human Pluripotent and Progenitor Cells Display Cell Surface Cluster Differentiation Markers CD10, CD13, CD56, and MHC Class-I (4438)," Proc. Soc. Exp. Biol. Med., 1999, 221:63-71 (Exhibit 213)
	,	Zezutak, Kathleen M. and Howard Green, "Specificity of Gene Expression in Adipocytes," Molecular and Cellular Biology, 1985, 5:419-21 (Exhibit 214)
		Zohar, R. et al., "Analysis of intracellular osteopontin as a marker of osteoblastic cell differentiation and mesenchymal cell migration," European Journal of Oral Sciences, 1998, 106(Supp. 1):401-7 (Exhibit 215)
V		Zuk, Patricia Z. et al., "Multilineage Cells from Human Adipose Tissue: Implication for Cell-Based Theraples," Tissue Engineering, 2001, 7:211-28 (Exhibit 216)
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FORM 1449	Docket Number MA9658P	Application Number
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	•	U.S. P/	ATENT DOCUMENTS						
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	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION			
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		R DOCUMENTS (Includ							
LBC	and Seeded Hydroxyz		"The Effect of Osteocalcin on In Vitro Lipid-Induced Hydroxyapatite Formation apatite Growth," Calc. Tiss. Int. 37:75. (Exhibit 217)						
1	meser	Fortier, Lisa, et al., 2000, "Isolation and chondrocytic differentiation of equine bone marrow-derived mesenchymal stem cells," Am. J. Vet. Res. 59:1182-1187. (Exhibit 218)							
	of Rai	Huibregtse, Barbara, et al., 1998, "Effect of Age and Sampling Site on the Chondro-Osteogenic Poten of Rabbit Marrow-derived Mesenchymal Progenitor Cells," Journal of Orthopaedic Research. 18:18-2 (Exhibit 219)							
		Linsenmayer, Thomas et al., 1998, "Type X Collagen: A Hypertrophic Cartilage-Specific Molecule,"  Pathol. Immunopathol. 7:14-19. (Exhibit 220)							
1./		Nakajima, I. et al., 1998, "Adipose tissue extracellar matrix: newly organized by adipocytes during differentiation," Differentiation 63:193-200. (Exhlbit 221)							
1.17	Zvaifl	Zvaisler, et al., 2000, "Mesenchymal precursor cells in the blood of normal individuals," Arthritis Res. 2:477-488. (Exhibit 222)							
$\alpha$	Bond	Bond et al., 1999, "Human Subcutaneouspreadipocytes Differentiate Into osteoblasts," FASEB Journal 13:600A (Exhibit 225)							
		et al., 2000, "Mesenchyrit Multilineage Potential,							
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		U.Ş. PA	TENT DOCUMENTS				
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
10	5,854,292	December 29, 1998	Ailhaud et al.				
1/4		(Exhibit 235)					
	A	FOREIGN	PATENT DOCUMEN	TS			
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	WO 99/28444 (Exhibit 223)	June 10, 1999	PCT		·		
	WO 99/02654 (Exhibit 224)	January 21, 1999	PCT				
	WO 00/53795 (Exhibit 231)	September 14, 2000	PCT				
	WO 01/62901 A2 (Exhibit 232)	August 30, 2001	PCT		·		
	WO 01/21767 (Exhibit 233)	March 29, 2001	PCT				
	WO 97/26326 (Exhibit 238)	July 24, 1997	PCT	•			
	OTHE	R DOCUMENTS (Includi	ng Author, Titte, Date	, Pertinent Page	es, Etc.)	•	-
	Stashower et al., 1999, "Stromal progenitor cells present within liposuction and reduction abdominoplasty fat for autologous transfer to aged skin," Dermatologic Surgery, 25:12:945-949.  (Exhibit 227)						
		Strutt et al., 1996, "Growth and differentiation of human adipose stromal cells in culture," methods in Molecular Medicine: Human Cell Culture Protools, 41-51. (Exhibit 228)  Tavassoli et al., 1981, "The Nature of Fibroblasts Derived From Adipose Tissue In-Vitro," Clinical Research, 29:5:871A. (Exhibit 229)					hods in
	Tavas						nical
	Vane	Van et al., 1978, "Complete Differentiation of Adipocyte Precursors," Cell Tissue, 195:317-329. (Exhibit 230)				<b>!9.</b>	
		et al., 1983, "Adipocyte	stem cell: A brief rev	iew," Int. J. of	Cell Cloning, 1:79	)-84. (Exl	hibit 234)
		ud, et al., 1983, "Hormon ro," Diabete & Metabolis			rentiation of OB1	7 preadip	ocyte cells
	Ailha	ud, et al., 1985, "Lipopro 3-158. (Exhibit 238)			taire," Reprod. A	lutr. Devi	dop., Vol.
	Zuk, i	Patricia A. et al., "Human ey of the Cell, 2002, 13:4			tipotent Stem Cel	ils," Mole	cular
11/	Gimb (Exhi	le, Jeffery M. et al., "Adi blt 240)	pose tissue-derived th	erapeutics," Ex			
	Saffor	rd, Kristine M. et al., "Ne Biochemical and Biophy	urogenic differentiati	on of murine at	id human adipose 02, 371-379. (Exi	derived:	stromal
#		P	7		7	<u> </u>	./.
	7	211/			19/1	9	

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EXAMINER: Initial it reference considered, whether or not citation is in conformance with MPEP 609; drawline through citation if not in conformance and not considered, Include copy of this form for next communication to the Applicant.

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